TABLE 3.—*Interpretation of vegetation types definable on aerial photographs in terms of various terrain characteristics*

[Interpretations apply only to season when ground is not frozen]

Vegetation types	Local topography	Soil and substratum	Water table and permafrost	Character of surface when wet	Trafficability	Surface water supply	Timber and firewood	Cover	Concealment	Remarks
White spruce (upland forest)	Level and sloping. Land generally smooth or with hummocks due to fallen trees.	Variable, most abundant on rather heavy soils with stony clay or silt substratum.	Water table variable, generally at moderate depths. Permafrost usually absent.	Variable, generally fairly well drained	Conditions generally fair for travel on foot. Much fallen timber in places. Close spacing of trees or steep slopes locally restrict movement of vehicles. Ground likely to become miry in wet weather.	Small supplies plentiful early in summer.	Large trees, if present, suitable for construction. Ample firewood.	Fair to poor.	Good to fair. Visibility within forest fair to poor.	Not a good indicator of ground conditions. Cannot be distinguished on aerial photographs from black spruce.
Black spruce (swamp or muskeg forest).	Areas of moderate to low relief at all altitudes, generally surrounding ponds or wholly or partly covering more or less level depressions. Locally hummocky.	In many places about a foot of moss overlying as much as 2 to 3 feet of peat and muck. Substratum variable, probably stony clay or clay in most areas.	Water table high, at or near surface. Permafrost present locally in northern section.	Standing water	Travel on foot or horseback very difficult and terrain generally impassable for wheeled or tracked vehicles unless ground is frozen. Trees can be cleared by bulldozers.	Abundant small supplies, easily contaminated.	No timber. Little firewood.	None.	Fair to poor.	Reliable indicator.
Lodgepole pine (in nearly pure stands).	Level to gently undulating terraces and plains. May or may not show numerous small undrained depressions (kettles) or ponds.	Sandy loam to gravelly soils over sand and gravel substratum.	Water table low. Permafrost absent.	Well drained in all weathers	Conditions excellent for movement on foot or for mechanized equipment. Chief barriers are steep terrace edges and stream channels. Trees can be cleared by bulldozers.	Water scarce, except in small ponds	No timber. Abundant firewood.	Little cover except in small undrained depressions.	Good to fair.	In pure stands a generally reliable indicator of well-drained, sandy ground.
Aspen (in nearly pure stands).	Level to gently undulating land, trees commonly on edges of terraces or on low knolls. Aspen also common on steep south-facing slopes outside mountains.	Clayey or silty soils over stony clay or clay substratum. On south-facing slopes outside mountains soils may be stony and sandy.	Water table at moderate depths Permafrost, if present, probably at considerable depths.	Variable, likely to be miry except on slopes.	Travel on foot somewhat impeded Much underbrush. Dense stands of large trees impede movement of mechanized equipment. Large trees cannot be cleared by bulldozers. Soils become miry under heavy traffic in rainy weather.	Water scarce on uplands.	No timber. Abundant firewood.	Fair to poor.	Excellent in summer. Fair in winter.	Also common in recent burns associated with lodgepole pine on widely varying soil types.
White spruce [and balsam poplar] (flood-plain forest).	Local relief 10 to 40 feet Many wet sloughs and ridges.	Silt-loam to gravelly soils over silt, sand, and gravel substratum.	Water table high. Permafrost absent	Generally well drained in all weathers	Conditions generally fair to difficult for travel on foot. Much undergrowth and fallen timber. Wet sloughs, river channels, and steep banks are barriers to movement of mechanized equipment. Danger of flooding. Large trees cannot be cleared by bulldozers.	Abundant supplies, especially in early summer.	Good construction timber Abundant firewood	Fair. Steep banks 10 to 40 feet high afford protection in some places.	Good. Visibility within forest fair to poor.	Commonly associated with balsam poplar.
White spruce, aspen, and lodgepole pine.	Rolling uplands and terraces. Local relief slight	Silty clay to gravelly soils over silt, sand, gravel, or stony clay substratum.	Water table medium to low Permafrost probably absent.	Variable, generally fairly well drained, especially under pine	Travel on foot fairly easy. Only moderate undergrowth if forest is well grown. Ease of movement of mechanized equipment variable. Principal barriers are steep slopes along streams and river channels. Soil may become miry under heavy traffic. Trees can be cleared by bulldozers	Water scarce on uplands.	Spruce timber suitable for construction if large enough. Abundant firewood.	Fair to poor.	Good in summer. Fair in winter.	Very widespread forest type after fire. Where aspen or pine are dominant, interpretations are more nearly those given for one or the other in nearly pure stands than for all three together.
Black spruce, lodgepole pine, and white spruce, with or without aspen.	Uplands and foothills below 3,500 feet Trees commonly on long gentle slopes that show faint, shallow drainage channels and on rolling tops of high plateaus east of Rocky Mountains.	Silty and heavy clay soils over stony clay and clay substratum. Bedrock substratum in places on top of plateaus east of Rocky Mountains.	Water table high, near surface in many places Permafrost present locally along northern section of highway.	Poorly drained Very muddy after rains, especially when vegetation is removed	Travel on foot and on horseback difficult Movement almost impossible for mechanized equipment in many places. Soils become very miry under heavy traffic in wet weather. Trees can be cleared by bulldozers.	Water abundant in small quantities early in summer.	No timber. Fair firewood in places.	Poor except in narrow valleys in plateaus east of Rocky Mountains.	Fair to good.	Black and white spruce cannot be distinguished from each other on aerial photographs, but association with characteristic local topography in area east of Rocky Mountains is a generally reliable indicator of heavy clay soils and miry ground.
White spruce, alpine fir, lodgepole pine, and black spruce.	Steep, rocky hill slopes. Ravines and gulches.	Silty, sandy, and stony soils over stony silt and broken-rock substratum.	Water table at moderate depths. Possibly local areas of permafrost	Generally well drained	Movement difficult owing to steep slopes, mossy undergrowth, and fallen timber.	Small supplies plentiful early in summer.	Spruce and fir suitable for construction. Abundant firewood.	Good in gulches and ravines.	Good to fair.	Alpine fir cannot be identified on photographs. A common forest type in foothills.
Flood-plain willows.	Elongated, curved, wet depressions (flood-plain sloughs) bordered by steep slopes 10 to 40 feet high.	Silty clay to sandy soils over silt, sand, and gravel substratum.	Water table high, at or near surface. Permafrost absent.	Generally poorly drained. Miry when wet.	Movement difficult because of dense undergrowth, miry soils, and steep banks 10 to 40 feet high. Danger of flooding. Trees can be cleared by bulldozers.	Supply generally abundant.	None.	Fair next to steep banks.	Poor.	
Upland willows.	Variable, generally slight relief. Slopes moderate.	Variable, generally fairly heavy (not sandy or gravelly).	Water table variable Permafrost probably absent except perhaps along northern section of highway	Moderately well to well drained	Movement locally difficult owing to fallen timber and dense underbrush. Suitability for mechanized equipment variable.	Water scarce.	None.	Variable; generally poor.	Poor.	Not a good indicator of ground conditions. Common in recent burns.
Dwarf birch (in muskegs).	Same as for black spruce	Same as for black spruce.	Same as for black spruce	Same as for black spruce	Same as for black spruce.	Same as for black spruce.	None	None.	None.	
Alpine meadow, dwarf birch, and alpine tundra.	Level to steeply sloping land, locally hummocky.	Variable, stony in many places. Substratum stony or rocky.	Water table high Permafrost present locally.	Likely to slump under influence of frost Tundra on steep slopes slippery even when dry.	Travel on foot generally excellent except through thick growth of dwarf birch Steep slopes restrict or prevent movement of mechanized equipment.	Small supplies present early in season.	None.	Poor except in ravines.	None.	
Dwarf birch and willows (on heavy clay soils).	Level to gently sloping land, with incipient subparallel drainage patterns.	Silty and heavy clay soils over stony clay and clay substratum.	Water table high, near surface in many places Permafrost present locally along northern section of highway.	Poorly drained, very muddy after rains, especially when vegetation is removed.	Travel on foot and horseback difficult except on terraces at stream margins. Soils very miry in wet weather under heavy traffic.	Small quantities early in summer.	No timber nor firewood	None.	None.	Follows fire in black spruce-lodgepole pine-white spruce type.